ABSTRACT

The present invention relates to a peptide labelled with fluorine-18 for the specific recognition of lipid vectors. The peptide of the invention comprises the following peptide sequence (PI):

$$J^1\text{-}J^2\text{-}J^3\text{-}J^4\text{-}J^5\text{-}J^6\text{-}Z^7\text{-}U^8\text{-}J^9\text{-}J^{10}\text{-}U^{11}\text{-Arg-}J^{13}\text{-}J^{14}\text{-}U^{15}\text{-Lys-Gly-}X^{18}\text{-Gly-Thr-}J^{21}\text{-Glu-}J^{23}\text{-}J^{24}\text{-}U^{25}\text{-}J^{26}\text{-}J^{27}\text{-}J^{28}\text{-}U^{29}\text{-}J^{30}\text{-}J^{31}\text{-Arg-}J^{33}\text{-}J^{34}\text{-}J^{35}\text{-}J^{36}\text{-}B^{37}\text{-}J^{38}\text{-}J^{39}\text{-}U^{40}\text{-}J^{41}\text{-}J^{42}\text{-}J^{43}\text{-}U^{44}\text{-}J^{45}\text{-}J^{46}\text{-}J^{47}\text{-}J^{48}\text{-}J^{49}\text{-Arg-}J^{51}\text{-}U^{52}\text{-}J^{53}\text{-}J^{54}\text{-Asp-}U^{56}\text{-Lys-Ser-}Z^{59}\text{-Leu-}J^{61}\text{-}J^{62}\text{-}J^{63}\text{-}J^{64}\text{-}Z^{65}\text{-}J^{66}\text{-}J^{67}\text{-}U^{68}\text{-}J^{69}\text{-}J^{70}\text{-}J^{71}\text{-}U^{72}\text{-}J^{73}\text{-}J^{74}\text{-}J^{75} \quad (I)$$

in which the amino acids J are chosen independently of each other from natural amino acids, or derivatives thereof, in such a manner that at least 50% of them are polar residues chosen from Arg, Asn, Asp, Cys, Gln, Glu, Gly, His, Lys, Orn, Pro, Ser, Thr and Tyr, the amino acids U are chosen from Ala, Cys, Gly, Ile, Leu, Met, Phe, Trp, Tyr and Val, the amino acid X^{18} is chosen independently of the other amino acids of the sequence from Ala, Asn, Cys, Gln, Gly, His, Ile, Leu, Met, Phe, Ser, Thr, Trp, Tyr and Val, the amino acid B^{37} is chosen independently of the other amino acids of the sequence from Arg, Ala, Cys, Gly, Ile, Leu, Met, Phe, Trp, Tyr and Val, the amino acid Z^7 is chosen independently of the other amino acids from Asp and Glu, the amino acids Z^{59} and Z^{65} are chosen independently from Glu, Asp, Lys and Arg, the superscripts of the residues J, Z, U, X and B representing the positions of these amino acids in the said sequence.